

REMARKS

Claims 1 to 6 are present in this application. Claims 3 and 4 have been withdrawn. Claims 1 and 2 are independent claims. Claims 5 and 6 are new claims.

In view of the above amendment, applicant believes the pending application is in condition for allowance.

Statement of Substance of Interview

Applicant agrees with the Examiner's Interview Summary for the Interview held August 22, 2007. This Amendment is based on the results of the Interview. Applicant requests reconsideration of the outstanding rejections and early allowance. If there should be any questions and/or recommendations, the Examiner is encouraged to contact Robert Downs, a representative for the Applicant.

Discrepancies in Office Action Summary

(Drawings, box 10) The Office Action Summary checks box 10 with respect to the drawings. However, no indication is provided that the drawings are accepted, or objected to. Applicant requests clarification as to whether the drawings have been accepted.

(Priority, box 12) The Office Action Summary indicates at box 12(c) that none of the certified copies of priority documents have been received. Applicants have determined that the electronic file accessed through PAIR does contain a certified copy of the priority document. Applicant requests reconsideration of the status of the certified copy of the priority document.

Specification

The title has been objected to as not being descriptive. Accordingly, Applicant provides herewith a replacement title. Applicant requests that the objection be withdrawn.

§ 102(b) Rejection – Kawakami

Claim 1 has been rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Application Publication 2002/0025157 (Kawakami). Applicant respectfully traverses this rejection.

Summary of the Present Invention

In a digital camera having white balance correction with respect to a flash device, it is desired that the flash device emit flash with a reference color temperature T_0 . A corresponding white balance correction value would be W_0 (W_{0R} W_{0G} W_{0B}). However, in the case of using an LED as a light source of the electronic flash, the LED emits light that varies in color temperature among elements, and consequently the LED does not emit light having the same color temperature as the reference color temperature T_0 . Thus, correction of white balance based on values at the reference temperature may be inaccurate. In particular, in a set of digital camera products having an LED as an electronic flash light source, white balance may not be accurately corrected using values of W_0 .

The present invention seeks to accommodate for inaccurate white balance correction values due to variations in LED's as flash devices. In an example embodiment of the present invention, a color temperature T_1 for light actually emitted from the electronic flash device is measured and a white balance correction value W_1 (W_{1R} W_{1G} W_{1B}) suitable for color temperature is recorded in advance.

This feature is covered in claim 1, which recites "storage device storing the correction information that is set based on a detection result of a color temperature of light actually emitted from the electronic flash device."

Provided the present invention, even when the LED which emits light whose color temperature is different from the reference value is used as a flash light source, each camera

product can be produced such that it will obtain an image of the same color shade without variation in color balance.

Kawakami

Kawakami appears to disclose measuring and recording of color temperature of the subject light source (e.g., a spotlight of a ceremonial hall, a ceiling light and a studio light). However, it does not teach or suggest measuring a color temperature actually emitted from the flash device and recording a white balance correction value based on the measurement result, as in the present invention. For example, Kawakami discloses a temperature sensor 56 (Fig. 4) for determining a peripheral temperature of the LEDs, which subsequently is not for detecting a color temperature of the light actually emitted from the electronic flash device.

It is noted that the present application discloses a temperature sensor 102 (Fig. 4) that is for detecting ambient temperature of an LED and not for detecting a color temperature of light actually emitted from an LED.

For at least these reasons, Applicant submits that Kawakami fails to teach or suggest at least the claimed “storage device which stores correction information for correcting white balance of an image obtained by flash shooting using the electronic flash device, the storage device storing the correction information that is set based on a detection result of a color temperature of light actually emitted from the electronic flash device.” Thus, Applicant submits that Kawakami fails to teach each and every claimed element.

Applicant requests that the rejection be reconsidered and withdrawn.

§103(a) Rejection – Kawakami, Nakayama

Claim 2 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Kawakami in view of U.S. Patent 6,963,362 (Nakayama). Applicant respectfully traverses this rejection.

In an alternative example embodiment, the reference white value correction value W_0 is corrected by using a modification value ΔW (ΔW_R ΔW_G ΔW_B).

This feature is covered in claim 2, which recites,

“a storage device which stores correction information...

“a modification information storage device which stores modification information for correcting the correction information stored in the storage device...”

“a modifying device which modifies the correction information based on the modification information stored in the modification information storage device”

Nakayama

Nakayama appears to disclose switching of hue data (hue data A and Hue data B) depending on whether the flash device is used in shooting. However, Nakayama fails to teach or suggest at least the claimed storing “correction information and modification information for correcting the correction information.” Furthermore, Nakayama fails to teach that the correction information is modified using the modification information, as recited in claim 2.

Furthermore, Applicant notes that Nakayama fails to disclose a light-emitting diode as a flash light source.

For at least these reasons, Applicant submits that Kawakami and Nakayama, either alone or in combination, fail to teach at least the claimed,

“a modification information storage device which stores modification information for correcting the correction information stored in the storage device, the modification information storage device storing the modification information required to make the correction information stored in the storage device coincident with correction information set based on a detection result of a color temperature of light actually emitted from the electronic flash device,

a modifying device which modifies the correction information based on the modification information stored in the modification information storage device.”

Thus, Applicant submits that Kawakami and Nakayama fail to teach each and every claimed element.

Applicant requests that the rejection be reconsidered and withdrawn.

New Claims

Claims 5 and 6 have been added. Claims 5 and 6 cover features of claims 1 and 2, respectively, as well as disclosed features of an input device for inputting values that are stored. In particular, the present application discloses that a communication device or a recording medium can serve as an input device. Applicant submits that at least for the reasons above for claims 1 and 2, respectively, new claims 5 and 6 are patentable as well.

Conclusion

In view of the above remarks, it is believed that claims are allowable.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Robert Downs Reg. No. 48,222 at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.14; particularly, extension of time fees.

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